

desiccation varies considerably with the species, and the overall prevalence of the forms listed above reflects this.

Some of the algae found include:

*Chaetomorpha area* KUTZING, 1845

*Sphacelaria cirrosa* AGARDH, 1824

*Polysiphonia* sp.

*Ulva lactuca* LINNAEUS, 1758

*Ceramium* sp.

*Cladophora* sp.

*Enteromorpha* sp.

Investigators should be aware that these organisms are being introduced now and have been introduced in the past in this manner. Since *Ascophyllum* floats, probably the entire Bay is subject to colonization by the organisms clinging to it. What is surprising is the lack of reports of these organisms. This could be ascribed to the resistance of the local fauna and flora to influxes of new forms (especially in the intertidal, where space competition is high), the presence of many of them as part of the already established fauna and flora, or simply the lack of systematic collecting in the Bay. It would seem worthwhile for someone to determine accurately the numbers and species composition of the viable organisms in *Ascophyllum* shipped with lobsters over a long period so that we know just what is entering the Bay by this route. Experiments designed to study the mode of distribution of these forms and their rates of survival in competition with the local fauna might be highly informative.

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### *Cadlina modesta*:

## A Range Extension, with Notes on Habitat and a Color Variation

BY

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(1 Text figure)

IN THE ORIGINAL DESCRIPTION of *Cadlina modesta* MACFARLAND, 1966 (Nudibranchia: Dorididae), the species was recorded from Point Pinos and Point Cabrillo (Pacif-

ic Grove near Monterey, California, 36°36'N, 121°54'W) and from La Jolla, California (32°52'N, 117°15'W). Since then, its occurrence at intermediate points in the range has been established: SPHON & LANCE (1968), "frequent" occurrence in Santa Barbara County; and ROLLER & LONG (1969), "common" occurrence in San Luis Obispo County.

On April 8, 1969 (a -0.7 foot tide), I obtained 3 specimens that were crawling on the bottom of rocky tide pools in the middle to low intertidal zone (RICKETTS & CALVIN, 1968) at Moss Beach (37°31'N, 122°31'W), northern San Mateo County. This is an 85-mile northward extension of the range (measured along the coastline), and a new record for San Mateo County.

These specimens were kept alive in a one-gallon tank for about 36 hours. During this period I observed them crawling over some shoots of the alga *Gastroclonium coulteri* (HARVEY, 1853) at 7 different occasions. Three other species of nudibranchs [*Tritonia festiva* (STEARNS,

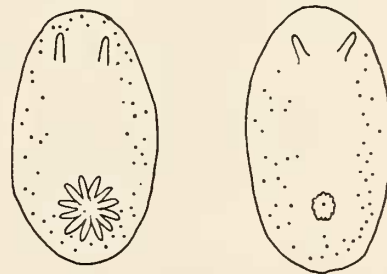


Figure 1

Sketch of *Cadlina modesta* MACFARLAND, 1966

- A: Specimen with complete series of lemon-yellow spots  
B: Specimen without spots in front of rhinophores (gills drawn retracted)

1873), *Diaulula sandiegensis* (COOPER, 1862) and *Cadlina luteomarginata* MACFARLAND, 1966] from Moss Beach were kept in another one-gallon tank, but I did not observe them in association with *G. coulteri* during this 36-hour period of random observation. *Gastroclonium coulteri* was placed in the tank because of its frequency along the sides of the pools where *C. modesta* was obtained.

On April 19, 1969, I was again collecting at Moss Beach (a -0.5 foot tide), and found 2 additional specimens of *Cadlina modesta* in similar tide pool habitats. These were crawling over the calcareous coralline alga *Corallina* sp. when collected. Since MACFARLAND rather broadly described the habitat of these animals as "rocky open pools"

and the Large Tide Pool at Point Pinos, the association of *C. modesta* with these 2 forms of algae is mentioned.

Three of the specimens collected exhibited a color variance from MACFARLAND's original description. He states that on the notum there is "a continuous irregular series of small lemon-yellow spots" that "extend around in front of the rhinophores." These 3 animals lacked these prominent spots in front of their rhinophores. Otherwise, the marginal series of spots was continuous around the notum. The other specimens closely matched MACFARLAND's color description. Although the 5 specimens varied in notal length from 16 to 33 mm and in width from 8 to 13 mm, there was not a sufficient sample to establish any significant correlation between the animal's size and the absence of the lemon-yellow spots in front of the rhinophores. The color of the rhinophores also varied from whitish to a dusky brown. MACFARLAND wrote that the rhinophores were seldom dusky.

Mr. Steven J. Long has informed me that these color variations occur also in animals from San Luis Obispo County. Animals of the originally described color pattern have been collected in that county, too.

The specimens collected April 8, 1969, are in the collection of the California Academy of Sciences to permit confirmation of the identification.

I gratefully acknowledge the help of many people in preparing this note, especially Dr. Paul Silva for his kindness in identifying the algae, and Mr. Allyn G. Smith for his generous and helpful criticism.

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## A Note on the Opisthobranchs of Santa Cruz Island, California

BY

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ON MARCH 15, 1969, the Conchological Club of Southern California sponsored a trip to Fraser Point (34°04' N; 119°56' W) on Santa Cruz Island, California. While on this trip, the author, along with Mr. Richard A. Roller and Mr. Hans Bertsch, collected 24 species of opisthobranch mollusks.

SPHON & LANCE (1968) reported 21 species from Santa Cruz Island. Although not all of them were obtained, the following 13 species, which have not been previously listed from Santa Cruz Island, were collected:

- Aegires albopunctatus* MACFARLAND, 1905  
*Aldisa sanguinea* (COOPER, 1862)  
*Ancula pacifica* MACFARLAND, 1905  
*Coryphella trilineata* O'DONOGHUE, 1921  
*Dendronotus albus* MACFARLAND, 1966  
*Dendronotus frondosus* (ASCANIUS, 1874)  
*Discodoris heathi* MACFARLAND, 1905  
*Doto amyra* MARGUS, 1961  
*Melibe leonina* (GOULD, 1853)  
*Polycera atra* MACFARLAND, 1905  
*Rostanga pulchra* MACFARLAND, 1905  
*Triopha carpenteri* (STEARNS, 1873)  
*Tritonia festiva* (STEARNS, 1873)

One of these 13 species, *Ancula pacifica*, is also a new record for Santa Barbara County.

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#### French Association of Malacology

THIS NEW ASSOCIATION was formed on January 8, 1969, in Paris. Its purpose is to encourage studies about mollusks and to improve relations between malacologists. As for the activities of the association, it is anticipated to distribute bibliographic references of its members' publications and to organize scientific meetings. In February the Asso-

